

PRIORITY

TOP SECRET

OUT65637

27 Jul 68 00 01z

TOP SECRET 262239Z JUL 68 CITE [REDACTED] 4285

25X1

PRIORITY [REDACTED]

25X1

CORONA

SUBJ: MISSION 1347 PHOTOGRAPHIC EVALUATION INTERIM REPORT (PEIR).

REF: A. [REDACTED]

25X1

B. [REDACTED]

1. NUMERICAL SUMMARY

MSN NO. AND DATES:

1047-1, 23-29 JUNE 1968

1047-2, 29 JUNE - 5 JULY 1968

23 JUNE 1968/2146Z

1545

J-47

FORWARD-LOOKING, 218

AFT-LOOKING, 219

117/149/145

118/150/154

MSN 1047-1, 129

MSN 1047-2, 240

LAUNCH DATE AND TIME:

VEHICLE NUMBER:

CAMERA SYSTEM:

PAY CAMERA NO:

MSN 1047-1 S/I NO.

MSN 1047-2 S/I NO:

RECOVERY REVS:

2. CAMERA SETTINGS

FWD-LOOKING

SLIT 0.150, FILTER W23A

PAGE 2 [REDACTED] 4285 TOP SECRET

AFT-LOOKING

SLIT 0.130, FILTER W-21

3. PERFORMANCE SUMMARY

THE IMAGERY FROM MISSION 1047 IS CONSIDERED TO BE AVERAGE. THE PIS REPORTED MISSION PHOTOGRAPHY AS BEING OF NORMAL IMAGE QUALITY. PHOTOGRAPHY FROM THE AFT CAMERA IS NOTICEABLY SUPERIOR TO THAT FROM THE FORWARD UNIT.

4. ANOMALIES

A. ANOMALY: AN OUT OF FOCUS AREA ON THE AFT AND FORWARD CAMERA. A SMALL AREA ON THE SUPPLY END OF BOTH CAMERA FORMATS HAD SOFT IMAGERY. THE AFT SOFT IMAGERY WAS INTERMITTENT WHILE THE AREA OF SOFT IMAGERY ON THE FORWARD CAMERA PERSISTED THROUGHOUT THE MISSION. THE AREA EXTENDED INTO THE FORMAT UP TO SIX INCHES AND IS UP TO ONE INCH WIDE.

CAUSE: A DISTORTED MAIN PLATE WILL CAUSE THE FILM TO TRACK WITH A BIAS. REVIEW OF THE FLIGHT MATERIAL SHOWS THAT THE BIAS EXISTS. THIS CAUSED THE FILM TO BUCKLE AWAY FROM THE FOCUS PLANE.

ACTION: MAINTAIN CAMERA MAIN PLATE FLATNESS WHEN MATING UNITS TO THE PAYLOAD STRUCTURE. (MONITOR: [REDACTED])

B. ANOMALY: THE STELLAR SHUTTER APPEARS TO HAVE REMAINED PARTIALLY OPEN FROM FRAME 79 (B-BUCKET) TO THE END OF THE MISSION.

DISTRIBUTION		
CY	OFFICE	PI
1	FILE	
2	CABLE SEC.	
	PP&B/RD	
	SECUR.	
3,4	TSSG	HAD ✓
	FSG/OC	
	RRD	
	REPRO	
	AID	
	ILG	
	PROD	
	SCIEN	
	WEST	
	EAST	
	M&S	
	PGM	
	IAS	25X1
	DIA-AX4	
	SPAD	
	DIA-AD	25X1
	TOCMX	

ADVANCE CY
SANITIZED
WITH TEXT

25X1

PAGE 3 [REDACTED] 4285 TOP SECRET

25X1

THIS ANOMALY CAUSED ALMOST ALL SUBSEQUENT FRAMES TO BE UNSUITABLE FOR STELLAR REDUCTION.

CAUSE: THE EVIDENCE AVAILABLE IS CHARACTERISTIC OF

TOP SECRET

25X1

Automatic
and
ation

- 2 -

A SHUTTER FAILURE.

ACTION: SOME 2-3 YEARS AGO THE STELLAR SHUTTER WAS EXTENSIVELY REMOVED TO INCREASE RELIABILITY. SINCE THIS REMOVED THE SHUTTER HAS PROVEN HIGHLY RELIABLE. CONSIDERING THE PERFORMANCE HISTORY, THE REMAINING FIVE J-1 SI CAMERA SYSTEMS ARE CONSIDERED ACCEPTABLE FOR FLIGHT. ACORN TO REVIEW POSSIBLE SWELL LIFE EFFECTS. (MONITOR: [REDACTED])

25X1

C. ANOMALY: EMULSION SCRATCHES ON AFT CAMERA 219, ORIENTED PARALLEL TO THE MAJOR AXIS OF THE FILM ARE PRESENT THROUGHOUT THE MISSION. THE NUMBER, UP TO 16, POSITION AND LENGTH, NOT RESTRICTED BY FRAME BOUNDARIES, VARIES WITHOUT AN APPARENT PATTERN.

CAUSE: UNKNOWN. THESE SCRATCHES WERE NOT APPARENT ON THE READINESS OR FINAL LOADING MATERIAL. THE ANOMALY WAS PRESENT, IN VARYING DEGREES OF SEVERITY AND FREQUENCY, THROUGHOUT THE MISSION AND DID NOT INCREASE IN SEVERITY OR FREQUENCY AS THE MISSION PROGRESSED.

PAGE 4 [REDACTED] 4285 T O P S E C R E T

25X1

ACTION: CONTINUED STRICT OBSERVANCE OF FINAL SYSTEM OPERATION PRIOR TO FLIGHT. (MONITOR: [REDACTED])

25X1

D. ANOMALY: THE FIRST 13 FRAMES OF THE AFT RECORD RECOVERED IN THE R SERV WERE PHYSICALLY DAMAGED INCLUDING SOME CRUMPLED FILM AND MULTIPLE PERPENDICULAR CREASES. THESE CREASES OCCURRED AT SEVERAL FREQUENCIES, ARE VERY SHARP, AND CAUSED PLUS DENSITY LINES ALONG THE CREASES. CREASING STARTED APPROXIMATELY ONE FOOT FROM THE CORE END OF THE FILM.

CAUSE: THE PRECISE CAUSE IS UNKNOWN; HOWEVER, SEVERAL PERTINENT OBSERVATIONS WERE MADE BOTH DURING THE DEFILMING OPERATION AND DURING POST-ANALYSIS.

(1) THE FIRST SEVERAL FRAMES WERE WRAPPED ON THE TAKE-UP SPOOL IN A DIRECTION OPPOSITE TO NORMAL SPOOL ROTATION.

(2) THE FREE END OF THE RECORD WHICH IS WRAPPED INTO THE ROLL DURING INITIAL WRAP-UP WAS ONLY ABOUT ONE FOOT LONG INSTEAD OF THE USUAL EIGHT FEET.

(3) THE FILM THAT WAS IN CONTACT WITH THE R-BUCKET HUB ROLLERS WAS BADLY CRUMPLED AND ACTUALLY JAMMED BETWEEN THE HUB ROLLERS.

(4) A PATTERN (PRESSURE SPOTS) CAUSED BY THE "B" HUB

PAGE 5 [REDACTED] 4285 T O P S E C R E T

25X1

WERE FOUND TO BE IN AGREEMENT WITH THE PREVIOUS MISSION (1846). ON 1847 THIS PATTERN OCCURRED TWICE, ONCE IN THE NORMAL LOCATION AND AGAIN AT A NEW POSITION. THIS INDICATES THAT THE "B" TAKE-UP SPOOL DID START TO WRAP CORRECTLY.

ACTION:

(1) PERFORM A FILM FAILURE ANALYSIS OF THE A TO B TRANSFER AND CUT AND WRAP SEQUENCE. (MONITOR: [REDACTED])

25X1
25X1

(2) PERFORM A CIRCUIT ANALYSIS OF THE A TO B TRANSFER FUNCTION WITH THE AGENA INTERFACE. [REDACTED] PRELIMINARY TESTS PERFORMED INDEPENDENTLY BY BIRD AND ACORN PRIOR TO THE PRE MEETING FAILED TO REVEAL THE FAILURE MECHANISM.

25X1

3

F. ANOMALY: A CONTINUOUS MINUS DENSITY STREAK IS PRESENT IN THE ACTIVE FORMAT OF THE END RECORD, APPROXIMATELY 0.1 INCH FROM THE TRACK EDGE OF EACH FRAME THROUGHOUT THE MISSION.

CAUSE: REFLECTANCE FROM RAIL HOLE LAMPS ON PG SYSTEMS CAUSE AN ALTERNATE DARK AND LIGHT STREAK ALONG THE EDGE OF THE ACTIVE FORMAT.

ACTION: NONE REQUIRED.

F. ANOMALY: THE TIME TRACK IS ERRATIC AND IS MISSING FOR

PAGE 6 [REDACTED] 4285 T O P S E C R E T
APPROXIMATELY 30 PERCENT OF THE MISSION ON THE END CAMERA (218). IN MOST INSTANCES THE STREAKED PULSE IS FOLLOWED BY A RESTART OF THE TIME TRACK IMAGERY. ON AFT CAMERA 219, THE TIME TRACK IS MISSING UP TO THE FIRST 12 INCHES OF THE FIRST FRAME OF SEVERAL PASSES.

CAUSE: THESE TWO ANOMALIES ARE RELATED AND ASSOCIATED WITH THE "DARK EFFECT" OF NEON LAMPS. AFTER PERIODS OF INACTIVITY, ESPECIALLY IN A LOW LIGHT ENVIRONMENT, THE THRESHOLD LEVEL REQUIRED TO FIRE THE NEON LAMPS IS INCREASED. IN SOME CASES THIS LEVEL IS MARGINAL AND REQUIRES AN EXTENDED PULSE SUCH AS THE STREAKED PULSE TO IONIZE THE LAMP. ONCE THE LAMP IS ON, THE LEVEL REQUIRED TO SUSTAIN IGNITION IS LESS.

ACTION: EVALUATE MODIFICATIONS TO SUBSEQUENT J-1 SYSTEM WHICH INCREASES THE CURRENT LEVEL TO THE LAMP. (MONITOR: [REDACTED])

G. CHARACTERISTIC ANOMALIES: CERTAIN ANOMALIES RECUR FROM MISSION TO MISSION THAT DISPLAY BASIC GENERIC CHARACTERISTICS. WHILE THESE CHARACTERISTIC ANOMALIES HAVE BEEN MINIMIZED THEY HAVE NOT BEEN ENTIRELY ELIMINATED. CHARACTERISTIC ANOMALIES OBSERVED IN MISSION 1047 FILM INCLUDE MINOR LIGHT FOGGING IN THE VICINITY OF THE MAIN CAMERA DRUM AREA, AND ALSO IN THE VICINITY

PAGE 7 [REDACTED] 4285 T O P S E C R E T
OF THE NUMBER ONE SRV/FAIRING INTERFACE. MINOR BANDING IS PRESENT AT THE TAKE-UP END OF MOST FRAMES OF BOTH MAIN CAMERAS. MINOR DENDRITIC STATIC FOG PATTERNS ARE PRESENT INTERMITTENTLY ALONG THE FILM EDGES OF BOTH INSTRUMENT NUMBER 218 AND NUMBER 219 FROM BOTH SEGMENTS 1 AND 2. A MINUS DENSITY STREAK IS PRESENT INTERMITTENTLY ON SEVERAL FRAMES OF INSTRUMENT NUMBER 219 THROUGHOUT THE MISSION. THE MINUS DENSITY STREAK IS ATTRIBUTED TO A FOREIGN PARTICLE IN THE SCAN HEAD ASSEMBLY.

T O P S E C R E T

-- END OF MESSAGE --

25X1

25X1

25X1